

A groupware system for supporting collaborative creativity

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idSpace: A groupware system for supporting collaborative creativity

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Collaborative Creativity Process

Nowadays, to invent and design new/innovative products and/or services requires collective creative performance: creative action in combination with collaboration.. Creativity is being seen as a “universal attribute, suggesting a need for greater creativity in order to both survive as well as thrive in the twenty-first century” (Craft, 2006). Several creativity techniques such as TRIZ, SCAMPER, Six Hats, SWIH and more than 90 others have been created in order to encourage people’s original thoughts and divergent thinking. Some techniques require groups of two or more people while other techniques can be accomplished by individual. All techniques try to steer thought processes and help the individual or the group to find a structured approach to answer questions, to see problems in their entirety, generate new ideas and to reach to faster and better decisions.

Fostering creativity is increasingly seen as a key direction and focus for pedagogic approaches, from nursery education, through compulsory education to higher education and work environments. While individual factors and initiative were important to creativity, social environments made the difference (Glor, 1998). According to Amabile’s study (1996), individual creativity can be mediated by the group and can be supported by the social environment and management. Support of collaborative inventive and creative thinking has to deal with intensive interaction and collaboration of participants and evolving artifacts during exploration. So, collaborative creativity requires:

- Generation of new perspectives, new ideas.
- Articulation of yet ‘tacit’ knowledge.
- Exchange of ideas, finding common ground.
- Learning from each other, exchanging existing knowledge.
- Evaluation of ideas.
- Collaborative ‘construction’ of new propositions

Existing systems that aim to support collaborative creativity processes are either mind or concept mapping tools, or mere groupware tools. Most of them offer real-time cooperation and integrate necessary functionalities like text chat, for instant communication, and a common shared workspace. During the idSpace EU-funded IST FP7 project [<http://www.idspace-project.org/>] a web-based platform in prototypical form was created that allows a distributed team of innovators to elaborate on existing ideas, to create and preserve new ideas, and to learn about them.

Supporting the collaborative creativity process: The idspace platform

The idSpace platform features an integrative toolset. It employs techniques for exploring new ideas (e.g. mind mapping in story writing and brainstorming) and for refinement of ideas (e.g. morphological analysis.) The platform contains tools to support traceability among stories, mind maps, concept maps, goals, new product features, as well as company values and policies. The platform also preserves semantic relationships among the different viewpoints for later exploration, retrieval, and navigation purposes.

The idSpace platform (see Figure 1) differentiates and innovates in guidance that offers to its users throughout the creative process and elaboration on that process. Pedagogical learning scenarios guide the use of the available creativity strategies, leading users to an effective and efficient session of creation and innovation. The strengths of the idSpace platform are the following:

- The possibility of working over distance on a problem/challenge
- A workflow for working collaboratively. It guides the users through creativity sessions while simultaneously supporting them with related information
- Reuse of creativity projects that have been created with the platform. Earlier projects can be used as input for new projects, thus transforming ideas into reusable knowledge.
- Open platform that can contribute to a productive result.

- Inspiring the user with ideas expressed in past projects, as well recommending related ideas, suitable users, past solutions, and appropriate pedagogical strategies and creativity techniques
- Supporting a complete process of project definition, creativity activities, evaluation, and solution formulation
- Easy expansion of the collection of creativity techniques now used by the idSpace platform now supports

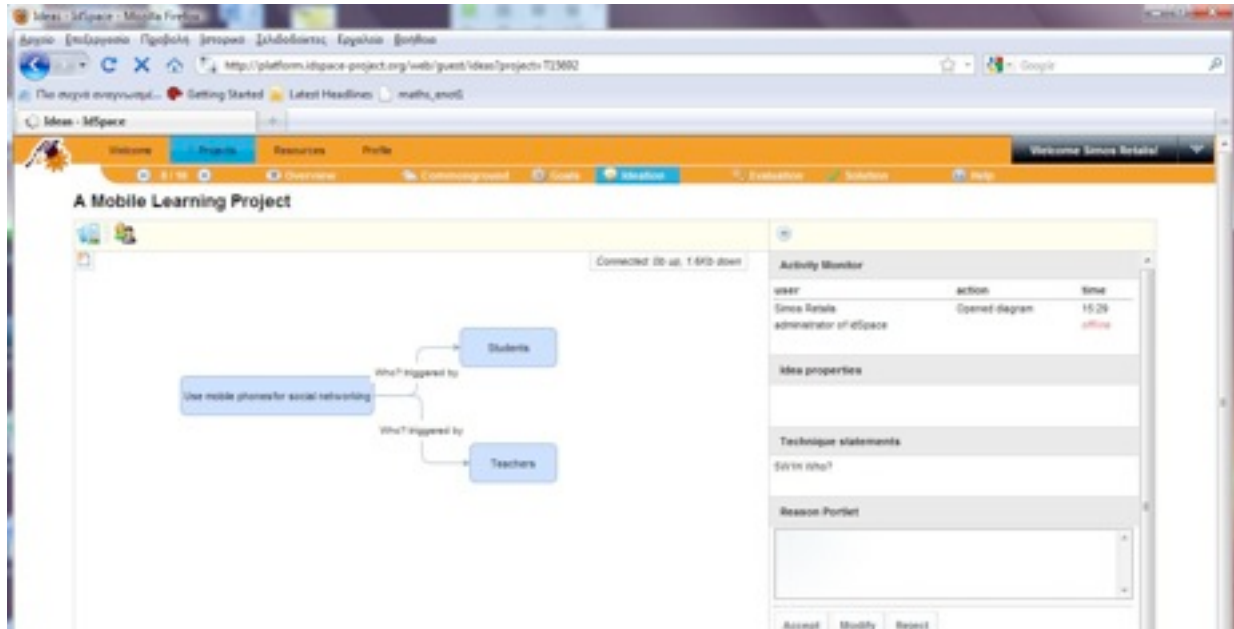


Figure 1: Screenshot of the ideation process at the IdSpace platform

Extensive evaluation studies were performed with an overall aim to analyze the usability and viability of the idSpace platform as a tool:

- to support actively and in a context-aware manner the creation of new ideas.
- to support elaboration (representation, storage and management) of ideas.

The evaluation methodology and the promising findings have been documented in an idSpace project deliverable report (IdSpaceEval, 2010).

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